

03ce

#19



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/803,472

DATE: 02/05/2003

TIME: 13:08:19

Input Set : A:\15303-51US.APP

Output Set: N:\CRF4\02052003\I803472.raw

3 <110> APPLICANT: Brooks, Alan R.
 4 Deng, Gary G.
 5 Rubanyi, Gabor M.
 6 Schering Aktiengesellschaft
 8 <120> TITLE OF INVENTION: Novel Estrogen-Regulated G Protein Gamma Subunit:
 9 Compositions and Methods of Use
 11 <130> FILE REFERENCE: 015303-000510US
 13 <140> CURRENT APPLICATION NUMBER: US 09/803,472
 14 <141> CURRENT FILING DATE: 2001-03-10
 16 <150> PRIOR APPLICATION NUMBER: US 60/188,460
 17 <151> PRIOR FILING DATE: 2000-03-10
 19 <160> NUMBER OF SEQ ID NOS: 5
 21 <170> SOFTWARE: PatentIn Ver. 2.1
 23 <210> SEQ ID NO: 1
 24 <211> LENGTH: 72
 25 <212> TYPE: PRT
 26 <213> ORGANISM: Mus musculus
 28 <220> FEATURE:
 29 <223> OTHER INFORMATION: Amino acid sequence of mouse G-gamma 12 protein
 30 subunit
 32 <400> SEQUENCE: 1
 33 Met Ser Ser Lys Thr Ala Ser Thr Asn Ser Ile Ala Gln Ala Arg Arg
 34 1 5 10 15
 36 Thr Val Gln Gln Leu Arg Leu Glu Ala Ser Ile Glu Arg Ile Lys Val
 37 20 25 30
 39 Ser Lys Ala Ser Ala Asp Leu Met Ser Tyr Cys Glu Glu His Ala Arg
 40 35 40 45
 42 Ser Asp Pro Leu Leu Met Gly Ile Pro Thr Ser Glu Asn Pro Phe Lys
 43 50 55 60
 45 Asp Lys Lys Thr Cys Ile Ile Leu
 46 65 70
 49 <210> SEQ ID NO: 2
 50 <211> LENGTH: 4147
 51 <212> TYPE: DNA
 52 <213> ORGANISM: Mus musculus
 54 <220> FEATURE:
 55 <223> OTHER INFORMATION: cDNA sequence for mouse G-gamma 12 protein
 56 subunit, variant 1
 58 <400> SEQUENCE: 2
 59 ctagaattca gcggccgctg aattctaggc gacgacggcg aagagtgagt gccaaagggttc 60
 60 atatgggaag gactttgggg tgagcatctt ctctatttcc agctggcttt tctgattttc 120
 61 agaaagaaga ctcatcaaag atgtccagca agacggcaag caccaacagc atagcccaag 180
 62 ccaggagaac tgtgcagcag ctgagattgg aagcctccat cgaaagaata aaggtctcaa 240

ENTERED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/803,472

DATE: 02/05/2003

TIME: 13:08:19

Input Set : A:\15303-51US.APP

Output Set: N:\CRF4\02052003\I803472.raw

```

63 aagcatcagc agacctgatg tcatactgtg aggagcatgc ccggagcgac cccctgctga 300
64 tgggcatacc gacctcagaa aacccgttca aggataagaa gacctgcac atcttatagt 360
65 ggaccaggaa gcgccccctg cctcttaacg caaaccacag cagcaacctg aagggattcc 420
66 ttcagcttac ctggaacca cagctagtaa ctaaaacacc cttctctcgg aataatagac 480
67 cctgaagtct ctctttttca agttgtcctt tcttcacctt ttactgattt aatacagaat 540
68 aacaatctta ttttctattt gataactatg gtatcatatt gggttactgt ataaggaaaa 600
69 tggcagggga gttgtgggaa gcttgtcttt acaaaatata attgattaag atatgtcaag 660
70 acctacattg tctaagcacc ggcaaattaa atgtctgaga atcacttcag tcaaaaacct 720
71 ttatatcttg ttcttaataa tgtttgtgcc aacctatata ccatgtaagg gatctgggga 780
72 ggaggcatgt gtctacaacc ataccttttt gcactatggg cactaaccac cctgaaactt 840
73 cctgcggtag ctcccccttc tcagagttac atcattatcc tgactctgtg taggtaaatt 900
74 tccgtgaaat ttttgtacaa aaaaaaggta atgaaagaac gttgcaaaga tcatctgcat 960
75 tataatgagt tgatgctggt ctcaactctc tcttggaatt gtgctggccc cttagtctac 1020
76 aataaactgt gccaatataa aacctaaaggc taaaactgaa agccctttga tggggtctta 1080
77 actcatatca gtcatttggg cttctctgat cctgaggcta agaaagggga agagaccctc 1140
78 aggaggcagc ttccactcca gggtcttga tctctgctgg attgggggtg gccacctcag 1200
79 aaacttccac cctcatgact ggaatggaag aggggaccga gagcctcaca atctcggaga 1260
80 gggaggagaa attcttaaaa acagctgctc tctgcgccc agcttcacag gcagccctgc 1320
81 ccttttctcc tcaccagcat ggtacctgcc cttactgcta gagcagctgc ttgtagaggg 1380
82 acattccctc cttcccagtt ttaactggtg gaccacagtg gggggaaaaa cattcaagcg 1440
83 atataaagac acttgggctc tttgcagatg cctatacttc caacactacc atgtccacaa 1500
84 accaccctgg gggaggggccc ttccaaaggg aggccttgcta gtttcagcgt ctagcagttg 1560
85 ggtcctcact tttactccaa ttgtgaaaat agcccacgta ccctcgagcgt gtccagtagg 1620
86 gatcccagag gcacataacc aagaaaggat tttgactttg tcacagtgac tatttaaaat 1680
87 aatctattcg aagtccaaac caaacacaaa gcctgtgata ttttaggtta ttaaggtaac 1740
88 tgctaataaa ggatttttaa aagtgtcctc aaaaaggact tagccccggg agttgtttat 1800
89 aaaatttccc ccacttgtat acagtgtgca ctaaaagaaa atgtatttta atatctaata 1860
90 cctgggctct gagcgtcatg cttcttggtg gtaaacatgc agtctgttcc ctaagtact 1920
91 cagagcgcat agaatttctc cactgtaccc atctgcttgg cactcggaac tgagcgtgtg 1980
92 aaatccatag cgctggccc aacctgttct cactgcttag ctcccagctg gattaaagac 2040
93 acctgctcag gcgggagaga gagagagaga gcgagctttt accttggaag aggtaaagat 2100
94 ggaaatgtac accaaaaaag acaattttta catttaattg aacattcttt tttttacaa 2160
95 gtatattttt ctactgatag tttcagaaca ctaattctat attcactcta atcttaaaaca 2220
96 tgtttcttta aatattttata aggcagttta ttacagaata ttttcatgca atcatgtgca 2280
97 cattattggt agcaaacata gtatatcctt tagtaactta gcataatttt gttaaaatac 2340
98 ttttaattgg aagaaatgaa cttgaggtcc caggaggttt tgttgctttt tcattgatta 2400
99 gagacaataa atatcttgta acttctaacc cagatctgag ctgtgctcac aataataata 2460
100 atgaaatcag attctttgat gctggactca ggagggaat cattagccaa ctgttgactt 2520
101 acttatagct agatgtctat gtgagaaagt ataatatata tatatacaca tatatatgac 2580
102 atgtaagagt cacttttatt tatctgtctt tgttcaacta tgaagccggt aactgcagca 2640
103 gtatgttggt gatgtcatga tgcacagaag tcccatgtgg agtggttttc ccacactgac 2700
104 aacttggcct cctttctgtg tgttcagtct gttgtctgaa ctaacactcc cgcgagcact 2760
105 atactcttta tactctgatc cccctagttc atcttaaat tgtctgtggc cctggcaaga 2820
106 tagcgtacac aagattccat gactccagag catcttgaag aaacatacat attttgaaag 2880
107 aggggaaatg tagcagatag ttcacaagct gcgggttgta gctaaatatt ccatttcttt 2940
108 gaaatcatgt ttctaaattc tttaccatca gaaagaaaag gagtgtcata cactttcaag 3000
109 ggaaggcttg gtctgcgttt tctgtgtttg gattattttt atactttgct gatctttaag 3060
110 ctatccatgg gggaaatttt ataccaacga gtfaataatt ctattcatc gtttacacaa 3120
111 tgtaacatgt gtcatactgg ggccagcgag atggctcagt aggtaaaggt gcttgatgct 3180

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/803,472

DATE: 02/05/2003

TIME: 13:08:19

Input Set : A:\15303-51US.APP

Output Set: N:\CRF4\02052003\I803472.raw

```

112 aagcccgga gctgtgttt catctacagg atgcacaaca taaaagaaaa gatctgattc 3240
113 ccacaggttc tcttctgacc tacacacaca cacactaaaa taacatttaa aaatatgtgc 3300
114 caaattatat ttgttcgggt gccaccttcc accagcttac cactacggta gaactgtcaa 3360
115 attcatctcc ctgaatttgt cttaaagggg tgtccatgca caggcccaag agtcacctcc 3420
116 aatgaaataa atgtaatact gaagtatgcc atgatgtttg ttgttttctt tcctcgtaag 3480
117 cctgtaagca ggaaaaatac gtcaaatcag atagaataga gcatttacca gtggctcgatg 3540
118 gcctggtcag tctgtgccc ggtgacttag gaccaggcac gtcagctctc tgagcctccc 3600
119 cttcccttgt tgtcacaagg gaatagaagc agaagaagct gagagcctcc ctattcccag 3660
120 atgccctggt ggaatgacct gcctctctgc cgtttctgcc aacgtgttgg tgctataagc 3720
121 tgcttcaaat accagtttgt ctgtagtgtg tactcaccta atcacttggt atccagtgcc 3780
122 tggtctaggt ttatggactt aactatttct gtgatgtttc attttttagcc atgttaactc 3840
123 ctaacacata ttctcttatg tctcagtaaa gtttcatattg ataagttgtt gagattctgt 3900
124 tatttgataa tattcttcgg ctgtccatcc agcatcttaa tcactttaa actgtgattg 3960
125 ttatttgcaa ctctgttctt tggaaagaat aaaagcattt ttttctactt gctaacatgc 4020
126 tcacaaatgt gagagaagag tcattaaaag ctttacttac tgggtcagtg cgtcattgac 4080
127 tcctttctgt gttttgccc ataaattaat aaaagaccaa aaaaaaaaaa aaaaaaaaaa 4140
128 aaaaaaa 4147
131 <210> SEQ ID NO: 3
132 <211> LENGTH: 4175
133 <212> TYPE: DNA
134 <213> ORGANISM: Mus musculus
136 <220> FEATURE:
137 <223> OTHER INFORMATION: cDNA sequence of mouse G-gamma 12 protein subunit,
138 variant 2
140 <400> SEQUENCE: 3
141 gcagcggcgg cggcggcgac gacggcgaag agttcatatg ggaaggactt tgggggtgagc 60
142 atcttctcta tttccagctg gcttttctga ttcacccac catttataaac ctggaggcac 120
143 tgggccacac aaagccttgc tgattttcag aaagaagact catcaaagat gtccagcaag 180
144 acggcaagca ccaacagcat agcccaagcc aggagaactg tgcagcagct gagattggaa 240
145 gcctccatcg aaagaataaa ggtctcaaaa gcatcagcag acctgatgtc atactgtgag 300
146 gagcatgccc ggagcgaccc cctgctgatg ggcataccga cctcagaaaa cccgttcaag 360
147 gataagaaga cctgcatcat cttatagtgg accaggaagc gcccttgcc tcttaacgca 420
148 aaccacagca gcaacctgaa gggattcctt cagcttacct ggtaaccaca gctagtaact 480
149 aaaacacctt tctctcggaa taatagacct tgaagtctct ctttttcaag ttgtcctttc 540
150 ttcacctttt actgatttaa tacagaataa caatcttatt ttctatttga taactatggg 600
151 atcatatttg gttactgtat aaggaaaatg gcaggggagt tgtgggaagc ttgtctttac 660
152 aaaatataat tgattaagat atgtcaagac ctacattgtc taagcaccgg caaattaaaa 720
153 tgtcgagaat cacttcagtc aaaaaccttt atattctgtt cttataaatg tttgtgccc 780
154 cctatatccc atgtaaggga tctggggagg aggcattgtt ctacaacat acccttttgc 840
155 actatgggca ctaaccacce tgaaacttcc tgcggtagct ccctcccttc agagttacat 900
156 cattatcctg actctgtgta ggtaaatttc cgtgaaattt ttgtacaaaa aaaaggtaat 960
157 gaaagaacgt tgcaagatc atctgcatta taatgagttg atgctgttct cactcctctc 1020
158 ttggaattgt gctggcccct tagtctacaa taaactgtgc caattaaaaa cctaaggcta 1080
159 aaactgaaag ccctttgatg ggtcttaac tcatatcagt catttgggct tctctgatcc 1140
160 tgaggctaag aaaggggaag agaccctcag gaggcagctt ccactccagg gctcttgatc 1200
161 tctgctggat tgggggtggc cacctcagaa acttccaccc tcatgactgg aatggaagag 1260
162 gggaccgaga gcctcacaat ctcgagagg gaggagaaat tcttaaaaa acgtgctctc 1320
163 ctgcgcccag cttcacaggc agccctgcc ctttctctc accagcatgg tacctgcctc 1380
164 tactgctaga gcagctgctt gtagagggac attccctcct tcccagtttt aactgggtgga 1440

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/803,472

DATE: 02/05/2003

TIME: 13:08:19

Input Set : A:\15303-51US.APP

Output Set: N:\CRF4\02052003\I803472.raw

```

165 ccacagtggg gggaaaaaca ttcaagcgat ataaagacac ttgggctctt tgcagatgcc 1500
166 tatacttcca acactaccat gtccacaaac caccctgggg gagggccctt ccaaagggag 1560
167 gcttgctagt ttcagcgtct agcagttggg tcctcacttt tactccaatt gtgaaaatag 1620
168 cccacgtacc ctgcgagtgt ccagtaggga tcccagaggc acataaccaa gaaaggattt 1680
169 tgactttgtc acagtgacta tttaaaataa tctattcgaa gtccaaacca aacacaaagc 1740
170 ctgtgatatt ttaggttatt aaggttaactg ctaatgaagg attttaaaaa gtgtcctcaa 1800
171 aaaggactta gccccgggag ttgtttataa aatttcccc acttgatac agtgtgact 1860
172 aaaagaaaat gtattttaat atctaagtc tgggctctga gcgtcatgct tcttggtggt 1920
173 aaacatgcag tcctgttcct aagtgactca gaggcacag aatttctcca cgttaccat 1980
174 ctgcttgga ctcggaactg agcgtgtgaa atccatagcg ctgcccacaa cctgttctca 2040
175 ctgcttagct cccagctgga ttaaagacac ctgctcaggc gggagagaga gagagagagc 2100
176 gagcttttac cttgaaaag gtaaagatgg aaatgtacac caaaaaagac aatttttaca 2160
177 tttaatggaa cattcttttt tttacaagt atatttttct actgatagtt tcagaacact 2220
178 aatcttatat tcactcta atctaaacatg tttcttttaa tatttataag gcagtttatt 2280
179 acagaatatt ttcatgcaat catgtgcaca ttattggtag caaacatagt atatccttta 2340
180 gtactttagc atatttttgt taaaatactt ttaatggtaa gaaatgaact tgaggtccca 2400
181 ggaggttttg ttgcttttc attgattaga gacaataaat atcttgtaac ttcctaacca 2460
182 gatctgagct gtgctcaca taataataat gaaatcagat tctttgatgc tggactcagg 2520
183 agggaaatca ttagccaact gttgacttac ttatagctag atgtctatgt gagaaagtat 2580
184 aatatatata tatacacata tatatgacat gtaagagtca cttttattta tctgtctttg 2640
185 ttcacttatg aagccggtaa ctgcagcagt atgttggtga tgtcatgatg cacagaagtc 2700
186 ccatgtggag tgtttttccc acactgacaa cttggcctcc tttctgtgtg ttcagtctgt 2760
187 tgtctgaact aacactcccg cgagcactat actctttata ctctgatccc cctagttcat 2820
188 cttaaatttg tctgtggccc tggcaagata gcgtacacaa gattccatga ctccagagca 2880
189 tcttgaagaa acatacatat tttgaaagag gggaaatgta gcagatagtt cacaagctgc 2940
190 gggttgtagc taaatattcc atttctttga aatcatgttt ctaaattctt taccatcaga 3000
191 aagaaaagga gtgtcataca ctttcaaggg aaggcttggt ctgcgttttc tgtgtttgga 3060
192 ttatttttat actttgctga tctttaagct atccatgggg gaaattttat accaacgagt 3120
193 taataattct cattcatcgt ttacacaatg taacatgtgt catactgggg ccagcgagat 3180
194 ggctcagtag gtaaagggtg ttgatgctaa gccggcgagc ctgtgtttca tctacaggat 3240
195 gcacaacata aaagaaaaga tctgattccc acaggttctc tctgacctc cacacacaca 3300
196 cactaaaata acatttaaaa atatgtgcca aattatattt gttcgggtgc cacttccac 3360
197 cagcttacca ctacggtaga actgtcaaat tcactcctc gaatttgtct taaaggggtg 3420
198 tccatgcaca ggcccaagag tcacctccaa tgaaataaat gtaatactga agtatgccat 3480
199 gatgtttgtt gttttcttc atcgtaagcc tgtaagcagg aaaaatacgt caaatcagat 3540
200 agaatagagc atttaccagt ggtcgatggc ctggtcagtc ctgtgccggg tgacttagga 3600
201 ccaggcacgt cagctctctg agcctccct tccctgttg tcacaaggga atagaagcag 3660
202 aagaagctga gagcctccct attcccagat gccctggtgg aatgacctgc ctctctgccg 3720
203 tttctgccaa cgtgttggtg ctataagctg cttcaaatac cagtttgtct gtagtgtgta 3780
204 ctacacata cacttggtat ccagtgcctg ttctaggttt atggacttaa ctatttctgt 3840
205 gatgtttcat ttttagccat gttaactcct aacacatatt ctcttatgtc tcagtaaagt 3900
206 ttcatttgat aagttgttga gattctgtta tttgataata ttcttcggct gtccatccag 3960
207 catcttaatc actttaaaac tgtgattgtt atttgcaact ctgttctttg gaaagaataa 4020
208 aagcattttt tttcacttgc taacatgctc acaaagtgtg gagaagagtc attaaaagct 4080
209 ttacttactg ggtcagtgcg tcattgactc ctttctgtgt tttgcccaat aaattaataa 4140
210 aagacaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 4175
213 <210> SEQ ID NO: 4
214 <211> LENGTH: 72
215 <212> TYPE: PRT

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/803,472

DATE: 02/05/2003

TIME: 13:08:19

Input Set : A:\15303-51US.APP

Output Set: N:\CRF4\02052003\I803472.raw

216 <213> ORGANISM: Homo sapiens
218 <220> FEATURE:
219 <223> OTHER INFORMATION: Amino acid sequence of human G-gamma 12 protein
220 subunit
222 <400> SEQUENCE: 4
223 Met Ser Ser Lys Thr Ala Ser Thr Asn Asn Ile Ala Gln Ala Arg Arg
224 1 5 10 15
226 Thr Val Gln Gln Leu Arg Leu Glu Ala Ser Ile Glu Arg Ile Lys Val
227 20 25 30
229 Ser Lys Ala Ser Ala Asp Leu Met Ser Tyr Cys Glu Glu His Ala Arg
230 35 40 45
232 Ser Asp Pro Leu Leu Ile Gly Ile Pro Thr Ser Glu Asn Pro Phe Lys
233 50 55 60
235 Asp Lys Lys Thr Cys Ile Ile Leu
236 65 70
239 <210> SEQ ID NO: 5
240 <211> LENGTH: 8
241 <212> TYPE: PRT
242 <213> ORGANISM: Artificial Sequence
244 <220> FEATURE:
245 <223> OTHER INFORMATION: Description of Artificial Sequence: General
246 epitope tag
248 <400> SEQUENCE: 5
249 Asp Tyr Lys Asp Asp Asp Asp Lys
250 1 5

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/803,472

DATE: 02/05/2003

TIME: 13:08:20

Input Set : A:\15303-51US.APP

Output Set: N:\CRF4\02052003\I803472.raw